Three Decades of Transplantation

Multi-Organ Transplant Program
University Hospital
Children’s Hospital of Western Ontario

London Health Sciences Centre
Organ transplantation has had a remarkable journey over the past 30 years, and staff and patients at University Hospital have been participants every step along the way. What seemed impossible in the 1970s has become one of the greatest achievements of modern medicine. Thanks to scientific discoveries, organ transplants were transformed from operations of questionable benefit into highly successful procedures that save lives. The success rates for most transplants today are close to 90%, and patients facing death from organ failure are restored to good health. More than 4,000 transplants have been performed at University Hospital and Children’s Hospital of Western Ontario. The rewards to recipients have been great.

None of this success is possible, however, without donated organs. Unfortunately, the demand continues to exceed the supply. This gap will widen even more because of the prevalence of diseases that destroy organs and tissues, for which the only current solution is organ replacement. We are proud that the organ donation rate in the London region is the highest in the province and amongst the highest anywhere in Canada – almost double the provincial and national averages. But that is still not enough to meet the need. That is why the staff and researchers in the Multi-Organ Transplant Program dedicate their energy and resources to finding solutions. Organs from other species, tissue regeneration, and stem cells are all possibilities. An extensive group of scientists at LHSC and our research institutes – Robarts Research Institute, Lawson Health Research Institute, and the University of Western Ontario – are continually searching for ways to improve patient outcomes.

The task is huge, but not insurmountable. We know what has to be done. We must succeed if we are to fulfill the mission of our Transplant Program – to save lives and relieve human suffering.

William Wall

Dr. William Wall
Director, Multi-Organ Transplant Program
The first transplants performed in London were kidney transplants in the late 1950s and 1960s. It was trailblazing work, but the science of transplantation was too poorly understood at that time to make organ transplants worthwhile. The kidneys failed to function and patients survived for mere months. The challenge of conquering rejection was so great that it led one of the leading scientists of the day, Macfarland Burnet, to make the following comment about organ transplants: “On the whole, the present outlook is highly unfavourable to success.”

But the daunting task did not deter Dr. Calvin Stiller who was appointed to the staff of University Hospital when it opened in 1972. Dr. Stiller was the leader and the driving force behind the effort to establish kidney transplantation at the hospital. He was the visionary who knew that some day not only kidney transplants would be successful but all variety of other organ transplants would be successful too. His efforts, along with the pioneering efforts of others, were rewarded when a completely new drug – cyclosporine – was discovered in the late 1970s. It was a novel compound that worked at a specific site in the immune response to prevent rejection. Through Dr. Stiller’s influence, University Hospital was selected in 1979 as one of only a few centres in the world to conduct clinical studies with this new immunosuppressive drug. He headed a Canadian study that examined its effectiveness in kidney recipients.

Cyclosporine proved to be a quantum leap in the management of organ recipients. The success of kidney transplants immediately jumped to 80%, and other organ transplants such as liver and heart, previously abandoned because of dreadful results, were started again with enthusiasm. University Hospital was part of that exciting tidal wave of activity. In addition to kidney transplants, livers were started in 1977, hearts in 1981, intestines in 1988, and lungs in 1989. The first bone marrow transplant in London was done in 1989 to treat a patient with leukemia. That patient is alive and well today. Cyclosporine became the most significant advance in the history of transplantation.

The decade of the 1980s ushered in a new era. More drugs that act differently on the immune system were discovered and they provided even better control over rejection. Surgical techniques were refined, and...
better ways to preserve organs were discovered, thereby maximizing the chance that they would function perfectly in the recipients. Patients benefited enormously from these advances. Transplants that had been largely unsuccessful or too risky became not only successful, but routine.

Through a cooperative effort by pediatric and transplant specialists at the Children’s Hospital of Western Ontario and University Hospital, Ontario’s first liver and heart transplants in children were performed in London in 1984. In 1993, Canada’s first pediatric liver-bowel transplant was performed at Children’s. The program steadily expanded and includes Sarah who, at the age of 6 months, received an unusual combined transplant of liver, bowel, stomach and pancreas. She is in the Guinness Book of Records as the world’s youngest multi-visceral transplant recipient. Dedicated staff at the Children’s Hospital in the Pediatric Critical Care Unit, 7th floor Pediatrics ward, and Pediatric Medical Day Unit care for our young recipients and their families. Our pediatric liver transplant recipients have a 93% long-term survival and they enjoy an excellent quality of life.

Canada’s longest surviving liver and heart recipients received their transplants at University Hospital. Both of them had their transplants almost 25 years ago. When LHSC’s 500th heart transplant was done in 2003, our centre had performed more heart transplants than any other centre in Canada. Our longest-surviving kidney recipient is celebrating 33 years of health after her transplant in 1973. In 2004, combined kidney-pancreas transplantation was added to the list of transplants performed here. This combined transplant treats patients with diabetes whose kidneys have failed because of their diabetes. Now, 4,300 transplants have been performed in London.
The development of transplantation as a specialized field of medicine produced the need to educate and train individuals who would dedicate their careers to transplantation. More than 60 doctors from Canada and around the world have received their transplant education at LHSC. (See page 20 for a complete list of fellows.) In many cases, they have subsequently established themselves as leaders in transplantation. The heart, kidney, and liver programs are accredited for fellowship training with the American Society of Transplant Surgeons. Six fellows are currently being trained here.

Creativity and innovation have been a hallmark of the Program from its inception. As one means of addressing the shortage of donated organs, surgeons at LHSC have split livers from deceased donors into two so each part could be transplanted into separate recipients, suitably size-matched for the grafts.

The use of living donors is another option to increase the number of kidneys and livers available for transplant. In 1993, surgeons at LHSC were the first in Canada to take a piece of liver from a mother and transplant it into her infant son. Seven years later, in another Canadian first, that technique was extended to adult recipients by taking the larger right half of the liver from a living donor and transplanting it into an adult recipient.

### Transplant “Firsts” at LHSC

- First liver transplant in Ontario (1977)
- First heart transplant in Ontario (1981)
- Canada’s first heart-lung transplant (1983)
- First pediatric liver transplant in Ontario (1984)
- First pediatric heart transplant in Ontario (1984)
- World’s first successful liver-bowel transplant (1988)
- Canada’s first parent-to-child living donor liver transplant (1993)
- World’s youngest multi-organ recipient (1997)
- Canada’s first adult-to-adult living donor liver transplant (2000)

### Transplants, 1973 - 2005

<table>
<thead>
<tr>
<th>Transplant Type</th>
<th>Count</th>
</tr>
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<tbody>
<tr>
<td>Kidney</td>
<td>1,720</td>
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<tr>
<td>Liver</td>
<td>1,369</td>
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<tr>
<td>Bone marrow</td>
<td>535</td>
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<tr>
<td>Heart</td>
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<tr>
<td>Lung</td>
<td>48</td>
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<tr>
<td>Heart-lung</td>
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<tr>
<td>Multi-visceral</td>
<td>16</td>
</tr>
<tr>
<td>Intestine</td>
<td>11</td>
</tr>
<tr>
<td>Kidney-pancreas</td>
<td>8</td>
</tr>
<tr>
<td>Islet cell</td>
<td>5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>4,291</strong></td>
</tr>
</tbody>
</table>
Caring for Patients

The Walter J. Blackburn Multi-Organ Transplant Unit

Long before “patient-centred care” was a commonplace phrase, the unique needs of transplant recipients, regardless of the type of organ transplant, were identified as special. This concept led to the design of Canada’s first Multi-Organ Transplant Unit at University Hospital. Walter Blackburn and his family generously contributed to the costs of construction. The Walter J. Blackburn Transplant Unit was opened on August 31, 1987 by Dr. Stiller and Ontario’s Premier David Peterson. It has bustled with activity ever since that day. Robert Gordon was appointed Manager of the Program the year after it opened, and he continued in that role for the next 16 years.

Thousands of organ recipients have been cared for by a dedicated team that takes great pride in attending to the needs of patients. Staff – including nurses, physicians, pharmacists, psychologists, physiotherapists, social workers, and dieticians – work together to provide patients with the best possible care. The Program has four Transplant Nurse Practitioners who have advanced education at the Master’s level. Functioning as integral members of the transplant team, they also have additional roles in education and research.

Many recipients are critically ill with organ failure before their transplants, and they are managed in the Intensive Care Unit (ICU). Heart and liver recipients spend varying amounts of time in the ICU immediately following their surgery. The superb care provided by the ICU staff is directly responsible for the good outcomes in the most critically ill patients. Most patients leave the hospital between 1 and 3 weeks after their surgery. Clinical pathways were developed to streamline care and facilitate early discharge. They eliminate unnecessary diagnostic and laboratory tests and involve patients in many aspects of their recovery.

Patient self-care is a primary focus during recovery. Patients attend education sessions to learn about their medications and how to adjust to everyday life after transplant. With the help of videos, which were developed by our transplant pharmacist Kathy Denesyk, patients learn about immunosuppressive medications and their specific drug regimen. In 2002, the Canadian Society of Hospital Pharmacists awarded this project with the Novopharm Award for New Programs in Patient Counselling.

The Physiotherapy Clinic, generously supported by a donation from Dr. William Kostuk (transplant cardiologist), is geared to restoring the physical health of recipients as quickly as possible. Individualized exercise programs enable patients to progress quickly during recovery.

“Just a note to thank all the staff of the Transplant Unit for the wonderful care I received when I had my liver transplant in October 2004. From the PSAs, nurses, doctors, social workers, everyone was just awesome.... The staff in the Unit always kept me informed of what was going on, and they were there to help me when I needed it. Now that I am on the road to recovery, the staff in the Outpatient Clinic are right on top of things to make sure everything is running smoothly.”

-Ron Simpson
Transplant Outpatient Clinic

The Outpatient Clinic, which has nearly 5,000 visits each year, ensures excellent ongoing care for transplant recipients following discharge. The Clinic coordinates visits, blood tests, and diagnostic tests. Many patients are enrolled in clinical studies, which require specific monitoring according to defined protocols. In addition to regularly scheduled visits, the Clinic also operates on an informal, drop-in basis. Computers ensure that all patient records are up-to-date. Physicians, Nurse Practitioners, and other members of the transplant team assess all test results that are sent to our Clinic, and contact patients as necessary to adjust drug doses, enquire about symptoms, and provide medical advice.

Once patients return home, doctors in their own community provide medical care, including regular blood tests to monitor organ function and the levels of anti-rejection drugs. Our Program is indebted to countless community specialists and family practitioners who provide diligent and timely care for our patients. Also, our transplant specialists travel to distant communities, like Sudbury and Windsor, to service transplant clinics.

From 1985 until 2005 when it closed, nearby Mount St. Joseph provided a peaceful, healing atmosphere for thousands of patients who sought treatment at UH. The Sisters of Mount St. Joseph opened their doors to countless transplant patients and their relatives who needed an affordable place to wait, rest, sleep, and share stories with other patients and families. In addition, many service clubs – the Kinsmen, the Lions Foundation, David Foster Foundation, Hope Air, and the Starlight Foundation – have provided support and financial assistance to transplant patients who have had to travel long distances for treatment at University Hospital.
Transplantation and Immunogenetics Laboratory

The success of transplants, especially kidneys, depends on tissue matching of donors and recipients. The Transplantation and Immunogenetics Laboratory at LHSC, under the direction of Dr. Bill Howson for 32 years, performs tests that “type” donors and recipients and measure antibody levels (crossmatching) that are important in avoiding organ rejection. Dr. Howson retired in December 2005, and Dr. Ted Ball was recruited from the Cleveland Clinic to direct the lab. The Laboratory is accredited by the American Society of Histocompatibility and Immunogenetics.

Resources in the Transplant Unit

The Shirley Peel Nursing Conference Room opened in 2001, thanks to a generous gift by Mr. Bill Peel. It has been a tremendous educational addition to the Unit. Textbooks and nursing journals keep our staff up-to-date with the latest in transplant nursing theory and practice. The Conference Room offers needed space for daily nursing reports and staff meetings. Clinical education is offered throughout the year with update days and seminars, organized by our Transplant Program Educator. The Transplant Unit has a dedicated education fund to assist our nurses who attend education courses and transplant meetings. Our nurses and coordinators present topics at these meetings that highlight nursing care and unique patient education strategies.
The Andrew Lazarovits Library was opened at University Hospital to honour the memory and accomplishments of one of our most distinguished staff. In 1996, kidney transplant specialist Dr. Andrew Lazarovits made headlines with the discovery of a molecule that prevented organ rejection by uniquely altering the immune system. He led a team of researchers at LHSC and Robarts Research Institute that developed an antibody (CD45 monoclonal antibody), which targeted and disarmed specific immune cells responsible for organ rejection. Dr. Lazarovits was awarded the Medal of Research Excellence by the Kidney Foundation of Canada. He died in 1998 at the age of 44.

The Dr. C.Y. Lung Patient Education Centre was opened in the Transplant Unit in 2001. It provides a place for patients and their families to read literature on transplantation, to gather information from the internet, and to attend patient education classes. Sources of information include pamphlets and newsletters of the Kidney Foundation of Canada, the Canadian Liver Foundation, the Canadian Transplant Association, and MedicAlert. Computer access allows patients to stay in touch by e-mail with friends and family at home. The Education Centre is generously funded by the Dr. C.Y. Lung Memorial Fund, Astellas Pharma Canada, and Novartis Pharmaceuticals Canada.

In 2004, the White Family Transplantation and Minimally Invasive Surgical Suite, a state-of-the-art transplant operating room, was opened at the University Hospital, thanks to a $1.165 million gift from the Blackburn Group and Richard Costley-White, Sarah White and Annabelle White (grandchildren of Walter Blackburn). It was designed and equipped specifically for transplantation and minimally invasive surgery. Living kidney donors can have their kidney removed using minimal access techniques, allowing speedy recovery and discharge from hospital in one or two days. This large operating room has the most up-to-date video equipment and patient monitoring devices. Our surgeons can record procedures for use as educational tools.

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Our Credo
compassion
creativity
competence
commitment
collaboration

Nurse Lindsay Gibbons checks a patient’s report with Grant Fisher, Transplant Recipient Coordinator, and Jane Van Bilsen, Manager.
Many of our staff have made contributions to transplantation of such significance that they have been deemed worthy to hold the highest offices in national and international transplant organizations. Their appointments recognize their leadership skills, their knowledge, and their dedication to transplantation. Eight of our staff have held the office of President in Canada’s various national transplant organizations. Many serve on the editorial boards of prestigious journals, including Liver Transplantation (Drs. Marotta, McAlister, and Wall); Annals of Thoracic Surgery (Dr. Novick); Canadian Journal of Surgery and Evidenced Based Surgery (Dr. McAlister), and Journal of Heart and Lung Transplantation (Dr. Menkis). The addition of specialized staff to the Transplant Program has been steady for 20 years. Increasing numbers of transplants and different types of transplants have required the recruitment of personnel with special and creative skills.

Jane Van Bilsen, Manager of the Transplant Program, was President of the International Transplant Nurses Society from 2001-2002. Michael Bloch, Transplant Donor Coordinator, has worked in the Transplant Program since 1972. In 2003, he received the Lifetime Achievement Award from the Canadian Association of Transplantation for his outstanding commitment and dedication to transplantation. Dr. Stiller was the Chief of Transplantation from 1972-1996. He received the Canadian Society of Transplantation’s Lifetime Achievement Award in 2003 to recognize his previous and ongoing commitment to the field. In 2005, Dr. Jevnikar was awarded the Medal for Research Excellence by the Kidney Foundation of Canada for his outstanding work in the field of kidney disease and transplantation.

### A Glimpse of Staff Accomplishments

<table>
<thead>
<tr>
<th>Staff Member</th>
<th>Position</th>
<th>Society</th>
<th>Year</th>
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<tbody>
<tr>
<td>Dr. David Hollomby</td>
<td>Chair</td>
<td>Organ Transplantation Committee,</td>
<td>2003-present</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Canadian Council for Donation and Transplantation</td>
<td></td>
</tr>
<tr>
<td>Dr. Anthony Jevnikar</td>
<td>President</td>
<td>Canadian Society of Transplantation</td>
<td>2002-2004</td>
</tr>
<tr>
<td>Dr. Vivian McAlister</td>
<td>President</td>
<td>Canadian Organ Replacement Register</td>
<td>2001-2004</td>
</tr>
<tr>
<td>Ms. Corinne Weernink</td>
<td>President</td>
<td>Canadian Association of Transplantation</td>
<td>2003-2004</td>
</tr>
<tr>
<td>Ms. Jane Van Bilsen</td>
<td>President</td>
<td>International Transplant Nurses Society</td>
<td>2001-2002</td>
</tr>
<tr>
<td>Mr. Michael Bloch</td>
<td>President</td>
<td>Canadian Association of Transplantation</td>
<td>2001-2002 &amp; 1987-1988</td>
</tr>
<tr>
<td>Dr. Vivian McAlister</td>
<td>President</td>
<td>Canadian Society of Transplantation</td>
<td>2000-2001</td>
</tr>
<tr>
<td>Dr. Alan Menkis</td>
<td>President</td>
<td>International Society of Heart and Lung Transplantation</td>
<td>1997-1999</td>
</tr>
<tr>
<td>Dr. Alan Menkis</td>
<td>President</td>
<td>Canadian Society of Transplantation</td>
<td>1999-2000</td>
</tr>
<tr>
<td>Dr. Robert Zhong</td>
<td>President</td>
<td>International Society for Experimental Surgery</td>
<td>1998-2000</td>
</tr>
<tr>
<td>Ms. Jane Drew</td>
<td>President</td>
<td>Canadian Association of Transplantation</td>
<td>1998-1999</td>
</tr>
<tr>
<td>Dr. William Wall</td>
<td>President</td>
<td>International Liver Transplantation Society</td>
<td>1995-1997</td>
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<td>Dr. Neil McKenzie</td>
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<tr>
<td>Dr. Calvin Stiller</td>
<td>Councillor</td>
<td>International Transplantation Society</td>
<td>1983-1990</td>
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Two scientists intimately associated with the Transplant Program have received special recognition by the Canadian Institutes of Health Research. Dr. Robert Zhong was awarded a Canada Research Chair in Transplantation and Experimental Surgery in 2004. Dr. Zhong is internationally recognized for his research and microsurgical skills. In 2001, Dr. Quim Madrenas, research associate at Robarts Research Institute, was awarded a Canada Research Chair in Transplantation. His research has been instrumental in determining how specialized white cells – T cells – initiate the rejection process.

LHSC’s transplant specialists have organized many national and international conferences that have attracted experts from around the globe. In 1989, Dr. Stiller organized “Ethics, Justice, and Commerce in Transplantation: A Global Issue”. The congress, held in Ottawa, was a comprehensive meeting on the ethical issues surrounding transplantation. In 1998, specialists in microsurgery from every continent travelled to London to study the transplant techniques developed by Dr. Zhong, Director of Experimental Surgery.

In 2003, a state-of-the-art symposium entitled “International Symposium on Cell-Based Therapies: From Stem Cell Biology to Clinical Immune Tolerance” was held in London. Organized by Dr. Quim Madrenas, scientists from Europe and North America presented the most exciting prospects for the role of stem cells in transplantation during this two-day symposium.

### International and National Transplant Meetings in London

<table>
<thead>
<tr>
<th>Year</th>
<th>Meeting</th>
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<tbody>
<tr>
<td>1977</td>
<td>International Symposium on Immunological Monitoring of the Transplant Patient</td>
</tr>
<tr>
<td>1987</td>
<td>International Consensus Conference on Anencephalic Donors</td>
</tr>
<tr>
<td>1988</td>
<td>First Canadian Symposium on Multi-Organ Transplantation</td>
</tr>
<tr>
<td>1991</td>
<td>Second International Symposium on Small Bowel Transplantation</td>
</tr>
<tr>
<td>1998</td>
<td>International Society for Experimental Microsurgery</td>
</tr>
<tr>
<td>2003</td>
<td>International Symposium on Cell-Based Therapies: From Stem Cell Biology to Clinical Immune Tolerance</td>
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</tbody>
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Dr. Paul Atkison, Director of the pediatric transplant program, with Randi Bonokoski, LHSC’s 1000th liver transplant recipient.

Dr. Ghent (left) has been a hepatologist in the liver transplant program at UH from its inception. Dr. Marotta joined the liver program in 1997.
A close association between patient care and research has been an enduring trademark of our Transplant Program. From the beginning, our hospital administration understood the importance of basic research and clinical investigation. This approach enabled us to move many innovations quickly from the laboratory to the bedside. Many of our clinician-scientists have cross appointments at Robarts Research Institute, The University of Western Ontario’s Department of Microbiology and Immunology, or the Lawson Health Research Institute. This association has been extremely beneficial for our patients, and it has assisted the Program tremendously in pushing forward the frontiers of organ transplantation.

Virtually every new immunosuppressant has been investigated in various trials at University Hospital. Currently, more than a dozen clinical trials are in progress with several more ready to start. During the past five years, members of our Transplant Program have published more than 200 articles in scientific journals and conducted research projects totalling $34 million.

In 2000, Dr. David White was appointed the Novartis-Stiller Chair in Xenotransplantation. Dr. White is investigating the feasibility of using organs from genetically modified pigs for transplantation into humans. By introducing human genes into the pig, it should be easier to overcome rejection. These “transgenic” pig organs could be the ultimate solution to the shortage of donated organs. Even if every available human organ was donated, there would still not be enough to meet the demand, not now and especially not in the future. If organs from pigs could be used with the same success as human-to-human transplants, no patient would be denied this life-saving treatment.

Dr. Madrenas, the Canada Research Chair in Transplantation, is studying the “signals” that are sent when receptors on the surfaces of T cells meet the foreign proteins of a transplanted organ. Interruption of those signals is a method of preventing activation of the T cells, which initiate the rejection process.

Between 12 and 14 research students and fellows are trained in Dr. Zhong’s microsurgery laboratory each year. Many come from across Canada, the United States, and Europe, and as far away as Asia, South America, and Australia to learn his techniques. He studies new drugs and how to use them to prevent rejection. The ultimate goal is to develop tolerance, whereby patients accept the transplanted organ as part of their own body by the use of a special drug regimen that is given only at the time of the transplant.

In 2000, the Ontario Research and Development Challenge Fund awarded the Transplant Program $1.2 million annually for a 5-year period to study ways to prevent organ rejection. By developing a three-way partnership in London amongst government, industry and institutional partners (LHSC, the Robarts Research Institute, and the University of Western Ontario), funds were used to establish the Centre for Transplant Studies under the directorship of Dr. Anthony Jevnikar and Dr. William Wall. In 2002, $1.3 million US from the National Institutes of Health was awarded to scientists in our Program to determine how anti-rejection drugs can be used to inhibit the recipient’s immune system and produce tolerance.
Islet Laboratory

Islet transplantation has become a reality for some Canadians who have diabetes since the Edmonton Transplant Program developed a successful protocol to transplant islets. Our Transplant Program has developed facilities at the Stiller Centre to provide a sterile, clinical grade laboratory to prepare and process pancreatic tissue for islet transplants. Right now, only a handful of the many thousands of Canadians with Type 1 diabetes can have this treatment because there are so few pancreases available to be used as a source of islets. This restricted availability of deceased human donor pancreases makes it inevitable that in the future non-human (pig) islets or genetically engineered human tissues or stem cells will be used as a source of insulin-producing cells for transplantation. Headed by Dr. White, a major research effort is currently investigating each of these possibilities. The principle aim of the research is to develop a way to transplant insulin-producing cells without the requirement for the patient to take immunosuppressive drugs to prevent rejection. In addition, the research team is developing a new technique for performing islet transplants that eliminates the need for infusing the cells into the portal vein, as this process can be damaging to the transplant.

Dr. Zhong and his team performing an experimental kidney transplant at the University of Western Ontario.
Matthew Mailing Centre for Translational Transplant Studies

The Transplant Program at University Hospital has always had a strong commitment to not only basic research, but to the application of fundamental discoveries to patient care, i.e. translational research. The Hospital and the Lawson Health Research Institute have partnered to establish the Matthew Mailing Centre for Translational Transplant Studies, which will be located on the 4th floor of the Legacy Research Pavilion at University Hospital. This state-of-the-art facility, made possible by a $500,000 gift from the Mailing family in memory of Matthew, will have nearly 10,000 square feet of floor space for scientists dedicated to transplant research. Recognizing that research benefits from the natural communication that occurs when researchers work together, the Mailing Centre is an open environment workspace, which will encourage interaction and collaboration yet will be adaptable to the changing needs of individual researchers.

Core facilities will be centrally located and the laboratory will house the most advanced microsurgery transplant facility in the world, directed by Dr. Zhong. The entire facility will be linked by a sophisticated informatics network tied into the robotics group, also housed within the Legacy Pavilion. In keeping with the translational focus, the centre will be located immediately adjacent to the Multi-Organ Transplant Unit.

We anticipate that the Mailing Centre will set the world standard for pre-clinical models and the evaluation of optimal immunosuppression and surgical techniques. The goals are to find alternate sources of organs and cells for transplantation (including stem cells), to develop methods to minimize injury to transplanted tissue, to study new biopharmaceuticals and their application to tolerance, and to develop novel strategies for Type I diabetes. The Mailing Centre, to be completed in 2007, will not only consolidate current scientists who are focused on translational transplantation studies, but will also enhance our ability to recruit skilled researchers from Canada and throughout the world.
Our Commitment to Increasing Awareness

The London region has one of the highest donation rates not only in Ontario but also in Canada. Bill Brady, one of London’s most well-known and dedicated citizens, founded Transplant International with Dr. Stiller in 1984. Transplant International was instrumental in drawing media attention to the success of transplants and the critical need to donate organs. This organization laid the groundwork for the hospital’s involvement with many community corporations, an association that has been very effective in educating the public. There has also been a huge effort put forward by members of the Transplant Program who engage in many activities to increase awareness about the need for organ donation and the success of transplantation. LHSC’s Organ Donor Awareness Committee, chaired by Corinne Weernink, is an integral part of the Multi-Organ Transplant Program.

It has organized a wide variety of projects and annual activities including curling bonspiels and “A Race to Save Lives” at the London Fair Raceway. Mr. Brady has presided over many of these events, championing the need for organ donation.

With the help of a recipient’s family, we now have transport trucks delivering an important message as they travel throughout Ontario. These “moving billboards” encourage the public to consider donation and to sign a donor card. Donor recognition has also been a priority for the Committee for the past several years. Working with the City of London, a “Garden of Life” has been planted at the Forks of the Thames in downtown London to honour those who have donated. A white pine has also been planted at the front of University Hospital thanks to the Carrie Newman Fund, and it is lit each Christmas in memory of those who have donated while offering hope to those who remain waiting. This Fund has helped sponsor awareness initiatives, including a national calendar and a Donor Family Recognition Day. Annual golf tournaments – the Nathan Smith Memorial, Deiter’s Love Memorial, Brian DeVries Golf Classic, and the Matthew Mailing Memorial Tournament – have been invaluable in promoting awareness and raising funds for patient care and research. The following are a few specific examples of initiatives and events that contribute to the high rate of organ donation in Southwestern Ontario.

**Donation Rate (per million population) by Region in Ontario, 1999-2004**
Cooperative Education Program

Our Transplant Program has been a “partner in education” with secondary schools in Southwestern Ontario since 1998. Co-op students from local secondary schools spend an average of 160 hours in the Program. They learn about donor issues, recipient care, and research in a health-care setting. They organize school assemblies on transplantation, increasing awareness among their fellow classmates.

Secondary School Curriculum: One Life…Many Gifts

Transplant staff and education specialists developed a unit of study on donation and transplantation for Grade 11 students. This educational program – One Life…Many Gifts – was developed because our co-op students and student surveys identified the need for a formal educational experience that answered the many questions of these young adults. The resources include a teacher’s guide, video, CD, poster, and family discussion brochure. Using real-life case studies, students explore many facets of donation and transplantation and come to a thorough understanding of the subject. The students invariably discuss donation with their families, thereby reaching a second target audience. In 2002, the Health Care Public Relations Association of Canada presented the Hygeia Award to the Transplant Program in recognition of outstanding communications in health care. The curriculum also received the Ted Freedman Award, which recognizes those that inspire, advocate, and enable education in health care. The developers of this initiative – Dr. Wall, Cate Abbott, Mahms Richard-Mohamed, and Rodger Dusky (a former teacher at Central Secondary School) – are continuing to promote this educational tool for provincial implementation.

A Clear Process to Organ Donation

A team of LHSC staff has developed an educational program for community hospitals in Southwestern and Northern Ontario as a result of a generous contribution from Clarica. The sessions focus on providing a clear understanding about the donation process and how to overcome any barriers at the hospital level. Tailored to each hospital, the emphasis is on providing information about donor identification, brain death declaration, donor management, nursing care, and consent for donation. An integral part of this program includes transplant recipients who tell their personal stories to hospital staff.
Community Partners

LHSC’s Organ Donor Awareness Committee is indebted to many partners who have helped with various awareness campaigns over the years – recipients and their families, donor families, and other volunteers as well as corporate sponsors, such as Astellas, Clarica, Hoffmann-La Roche, Novartis, and Wyeth-Ayerst. Many local businesses and organizations have collaborated too, including Scotiabank, Bell Canada, A&P stores and Canada Post. The London Transplant Gift of Life Association has partnered with LHSC to sponsor many awareness events, including a donor quilt that honours organ and tissue donors. Communities outside of London have formed their own committees to promote greater awareness. They include Sarnia Organ Donor Awareness Group, Windsor Organ Transplant and Cardiac Care Support, and the Sudbury Awareness Group.

Donor Medal

In 1997, LHSC’s Organ Donor Awareness Committee asked William Johnson, a London artist, to design a medal that could be given to donor families. The Medal recognizes the lifesaving gift, and serves as a tangible and permanent reminder to the donor families that their loved ones saved and enhanced the lives of others. Each year, London’s Transplant Program hosts a Donor Recognition Evening when living donors and donor families are honoured, and the Medal is presented. The Medal recognizes this most remarkable example of human compassion – giving the gift of life to others. It has been adopted by many Canadian transplant programs, which present it to their own donor families at special ceremonies.

2005 World Transplant Games

The City of London hosted the 15th World Transplant Games from July 16-24, 2005. More than 1,000 organ recipients from 48 countries participated in athletic events during nine days. Endorsed by the International Olympic Committee, organ recipients compete at a very high level. The Games highlight the success of transplantation, and draw attention to the shortage of organs for transplant. It is the world’s largest event promoting greater awareness about organ donation. Two remarkable women, Janet Brady and Heather Fisher, who both received their liver transplants at LHSC, co-chaired the 2005 World Games. In 2003, both Janet and Heather were awarded the Queen’s Golden Jubilee Medal in “honour of exemplary contributions to make London a better community.”

Liver recipients Janet Brady and Heather Fisher won gold at the World Transplant Games in London.
Recognizing the Contributions of our Volunteers

Many volunteers generously give their time and effort towards the cause of donation and transplantation. Over the years, the London region, which includes cities as far away as Sudbury and Sault Ste. Marie as well as Windsor and Sarnia, has been very successful in getting out the message that “transplants work.” Our volunteers include many transplant recipients and their families, but also those who are waiting for a transplant. Their volunteer work is equally diverse - from initiating our “moving billboard” campaign, selling merchandise, speaking about their personal experiences, bringing the message into schools, and participating in our Recipient Gallery. The Gallery is on year-round display at LHSC; many of these patients’ faces have been used for numerous community awareness projects as well.

Recipient Gallery

- Susan, heart-lung transplant, 1995
- Curtis, liver recipient (1999) with his donor, dad Matthew
- Nisbet, liver transplant, 1994
- Mike, bone marrow transplant, 1989
- Ernie, heart transplant, 1995
- Clive, kidney recipient (2000) with his donor, sister Jackie
- Max, liver & bowel transplant, 1993
- Heather, kidney transplant, 2001
- Lynne, double lung transplant, 1994
- Bart, cornea transplant, 1994
- Jane, liver transplant, 1982
- Bill, liver & heart transplant, 2002

credit: Mone Cheng
Promotional Merchandise

The Organ Donor Awareness Committee has developed an extensive merchandise line, from shirts of all descriptions to caps, key chains, umbrellas, and cards. One of our pediatric liver recipients designed a “transplantasaurus”, which was the concept for a children’s beanie baby. Our first t-shirt, featuring the slogan “Don’t take your organs to heaven... Heaven knows we need them here” has proven to be a favourite, with requests coming from across Canada and other countries too. Volunteers have been a tremendous help as they sell the merchandise, but also keep track of our inventory and sales. All proceeds go towards initiatives that draw attention to the need for donor organs.

Our Transplant Website

Our award-winning website provides up-to-date information about London’s Transplant Program as well as general information about donation and transplantation. Information includes statistics, media articles, patients’ newsletters, and awareness events. It has a special section for children. An interactive human body allows elementary students to learn about each organ and why it is needed for transplant. The website is www.lhsc.on.ca/transplant.
Multi-Organ Transplant Program Staff

Director
Dr. William Wall

Manager
Ms. Jane Van Bilsen

Administrative Support
Ms. Peggy Allman
Ms. Renay Ross

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Ms. Cathy Fraser
Ms. Valerie Giles
Ms. Linda Hamilton
Ms. Nancy Jevnikar
Ms. Mary McCutcheon

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Mr. Craig Hasilo
Mr. Justin Leushner
Ms. Jennifer Marsh
Dr. Jamie Melling
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Dr. Jim Brown
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Dr. Cameron Ghent
Dr. Anthony Hodson
Dr. David Hallomby
Dr. Andrew House
Dr. Kang Howson-Jan
Dr. Anthony Jevnikar
Dr. William Kostuk
Dr. Mark Levstik
Dr. Paul Marotta
Dr. Norman Muirhead
Dr. Peter Pflugfelder
Dr. Faisal Rehman

Nurse Practitioners
Ms. Jennifer Cross
Ms. Cheryl Dale
Ms. Jan Hoffman
Ms. Sandy Williams

Nurse Case Manager
(living kidney)
Ms. Diane Smith

Nutrition
Ms. Lynne MacArthur
Ms. Dale McIntyre
Ms. Sue Skopelianos

Patient Care, Inpatient Unit
Ms. Sharon Acton
Ms. Nancy Avery
Ms. Heather Bartholomew
Ms. Sheri Bencich
Ms. Faye Brekelmans
Ms. Michelle Carter
Ms. Cara-Lee Coghill
Ms. Anne Cribben
Ms. Diana Deraad
Ms. Melanie Dodds
Ms. Sarah Dusky
Ms. Jody Elliott
Ms. Terri Fleet
Ms. Lindsay Gibbons
Ms. Billie Jo Green
Ms. Erin Hedges
Ms. Monica Hill
Ms. Carolyn Ingram
Ms. Heather Kelly
Ms. Deborah Kuhar
Ms. Amy Lidingon
Ms. Christy Masse
Ms. Linda May
Ms. Beth Montesi
Ms. Monika Nowak
Ms. Selena Nyland
Ms. Marlene Puff
Ms. Tina Ramsey
Ms. Lisa Rice
Ms. Janice Shine
Ms. Elizabeth Smith
Ms. Patsy Ste Marie
Mr. Tony Swanson
Ms. Sherry Szucsko-Bedard
Ms. Tram Trinh
Ms. Shelley Tubman

Patient Care, Outpatient Clinic
Mr. Paul Myers

Pediatrics
Dr. Paul Atkinson

Pharmacy
Ms. Kathy Denesyk

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Surgery
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Dr. Bob Klaii
Dr. Patrick Luke
Dr. Vivian McAlister
Dr. Neil McKenzie
Dr. Richard Novick
Dr. Doug Quan
Dr. Mackenzie Quantz
Dr. Stuart Swinamer
Dr. William Wall

Continued...
Multi-Organ Transplant Program Staff

Transplant Coordination (donor)
- Mr. Michael Bloch
- Ms. Jane Drew
- Ms. Jennifer-Anne Meneray
- Mr. Mahms Richard-Mohamed
- Ms. Corinne Weemink

Transplant Coordination (recipient)
- Mr. Grant Fisher
- Ms. Mary Anne Henry
- Ms. Kathleen Larkin

Transplant Education
- Ms. Cheryle Anne Mac Belford

Transplant Fellows
- Dr. Ibraheem Al-Ghamdi
- Dr. Adel Al-Qutub
- Dr. Abdulrahman Housawi
- Dr. Christopher Nguyen
- Dr. Abdul-Hamid Sinan
- Dr. Hideaki Tanaka

Transplant Lab
- Dr. Edward Boll
- Mr. Dave Beaune
- Mr. Rob Coles
- Mr. Tom Gougoulas
- Ms. Jamie Hooper
- Dr. Bill Howson
- Mr. Steve Leckie
- Ms. Mary Michel
- Ms. Lucy Milinow
- Ms. Deborah Pullen
- Ms. Kim Richeleau
- Ms. Marg Zeale

In 2003, LHSC administration was organized into Clinical Business Units (CBUs). The Transplant Program resides in the Surgery CBU: Ms. Bernadette MacDonald is the Vice-President and Ms. Judy Kojlak is the Director.

Clinical Fellows Trained in Organ Transplantation at LHSC

Heart and Lung
- Imtiaz Ali (Canada)
- Kassem Ashe (Canada)
- Colin Campbell (England)
- Dario Del Rizzo (Canada)
- Avi Garg (Canada)
- Kenneth Gehman (Canada)
- Javed Hayat (Pakistan)
- Mark Jones (England)
- Bob Kiall (Canada)
- Kojiro Kodera (Japan)
- Simon Ledingham (England)
- Arnaud Painvin (Canada)
- Mackenzie Quantz (Canada)
- David Sandler (Russia)
- Stuart Smith (Canada)
- Dorothy Thompson (Canada)
- Fen Wang (China)

Kidney
- Ken Beasley (Canada)
- Neil Boudville (Australia)
- Laura Gregor (Canada)
- Anne Hall (Canada)
- Abdulrahman Housawi (Saudi Arabia)
- Kevin McLaughlin (Scotland)
- Christopher Nguyen (Canada)
- Faisal Rehman (Canada)
- Faisal Sanai (Saudi Arabia)
- Vahahn Shahinian (United States)
- Laxmi Sharma (India)

Liver
- Ibraheem Al-Ghamdi (Saudi Arabia)
- Mohammed Al-Ghamdi (Saudi Arabia)
- Adel Al-Qutub (Saudi Arabia)
- Mohammad Al-Sofayan (Saudi Arabia)
- Nimer Assy (Israel)
- Paul Atkinson (Canada)
- Liam Gawley (Ireland)
- David Grant (Canada)
- Richard Hart (Canada)
- Winston Hewitt (Canada)
- Diederick Jalink (Canada)
- Nagappan Kumar (India)
- Mark Levstik (Canada)
- Yigang Luo (China)
- Jean-Noel Mahy (Canada)
- Richard Mireault (Canada)
- Michael Moser (Canada)
- Nacdet Ozcan (Turkey)
- Doug Quan (Canada)
- Kerri Robertson (Canada)
- Andre Roy (Canada)
- Yoshi Sakai (Japan)
- Abdul-Hamid Sinan (Syria)
- Edward Solano (Canada)
- John Sommerauer (Canada)
- David Stell (England)
- Francis Sutherland (Canada)
- Hideaki Tanaka (Japan)
- Douglas Thorburn (Scotland)
- Hongji Yang (China)
- Azade Yedidag (Turkey)

Liver and Kidney
- Maroun Aboujaoude (Lebanon)
- Sami Astfar (Kuwait)
- David Bigam (Canada)
- Matthew Brown (United States)
- Jonathan Fryer (United States)
- Anand Khakhar (India)
- Vivian McAlister (Ireland)
- Peter Melakos (Canada)
- Deborah Verran (Australia)
Multi-Organ Transplant Program

kidney  liver  heart
intestine  bone marrow  pancreas

CLINICAL CARE

EXCELLENCE

RESEARCH & INNOVATION

University of Western Ontario
Robarts Research Institute
Stiller Centre
Lawson Health Research Institute
Matthew Mailing Centre for Translational Transplant Studies

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